Safety Information Management Group (SIMG)

Quality safety information is necessary not only to identify problem locations, but also to prioritize locations, compare alternatives, and ultimately to evaluate the effectiveness of safety efforts and the performance of the transportation system. Safety information is critical for all Department of Transportation projects and Risk Management Programs. It is essential to law enforcement, emergency medical, insurance, legal, safety advocates, department staff, news media, local government staff (MPO/TAC/TCC), County Governments, Community Safety and grass roots programs to develop and evaluate programs for public safety. Not having accurate timely safety information for a transportation system would be like a manufacturing business not having an inventory system. As we strive to integrate our transportation system, while at the same time exhausting every opportunity to integrate safety into our projects and into our decisions, we must have accurate, timely, crash and safety information, and it must be effectively packaged and presented.

The Traffic Engineering Accident Analysis System (TEAAS) is used by TSSMU, the NCDOT Field Offices, Local Transportation Agencies and Local Police Departments to conduct crash analyses. This system provides access across the state and includes all crashes reported to the Division of Motor Vehicles Since 1990.

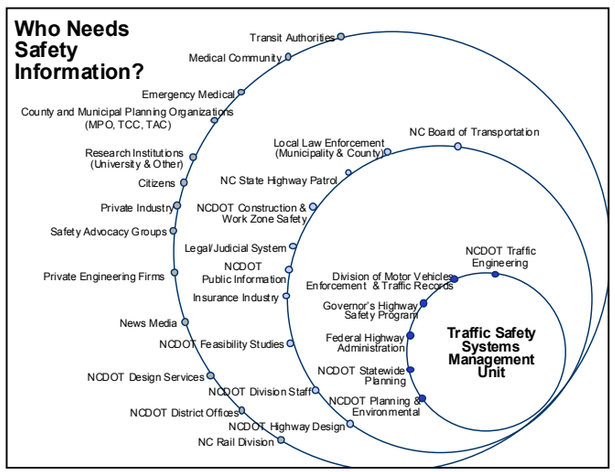
The SIMS works with various agencies throughout North Carolina to improve the quality of the data in the Traffic Records System. This SIMS section also provides technical support to TSSMU and other Units in NCDOT when working with Traffic Records.

In addition to these responsibilities, the SIMS also assists TSSMU and other Units, as requested, in process improvements. Past projects include the Fatal Crash Early Notification Process Improvement that won a NCDOT CPI award

Traffic Safety Specialist

The role of the Safety Specialist in TSSS is to complete projects that are complex and large in scope. These projects often require many years of work and require working with a wide range of agencies and individuals. Examples of past projects include the monitoring of the 16-foot wide mobile homes on North Carolina highways, and the implementation of the American Association of State Highway and Transportation Officials Strategic Highway Safety Plan with an emphasis on areas of trees in hazardous locations. The initial development of the the Across Median Program began as a special project. Today, this type of project would be addressed by the Traffic Safety Specialist.

A fatal crash resulting from a vehicle crossing a highway median. The "Across Median" and "Cable Guardrail" studies research ways of preventing severe crashes such as these.



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TRAFFIC SAFETY SYSTEMS SECTION
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Sixth Revision:
November 2005

Traffic Safety Systems Section

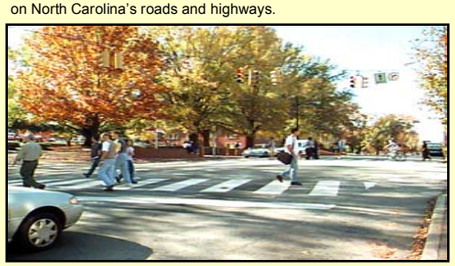
The mission of the Traffic Safety Systems Section (TSSS) is to reduce the number and severity of crashes and to decrease crash potential on all of North Carolina's roadways by implementing safety in the planning, design, construction, and maintenance phases of the highway program.

TRAFFIC SAFETY SYSTEMS SECTION

As a result of the 1966 Highway Safety Act, the Crash Identification and Surveillance Unit was established as part of the Traffic Engineering Department of the North Carolina State Highway Commission (SHC). The unit was responsible for highway safety programs, identifying and improving high frequency crash locations, and maintaining a surveillance of the locations having high crash rates or major losses in terms of injuries and property damage. This unit has developed into what is now the Traffic Safety Systems Section (TSSS) of the Traffic Engineering and Safety Systems Branch (TESSB) of the North Carolina Department of Transportation (NCDOT). The TSSS is organized into four sections with specific goals.

- To promote safety in the planning of our transportation facilities so we do not plan, design or build potential safety problems.
- To identify existing locations that are potential safety problems for investigation and treatment.
- To evaluate completed safety projects and programs to make sure what we do achieves the desired results.
- To provide safety information support to accomplish the goals of the Traffic Safety Unit and NCDOT.

Hundreds of people are killed and thousands are injured every year on North Carolina's roads and highways.



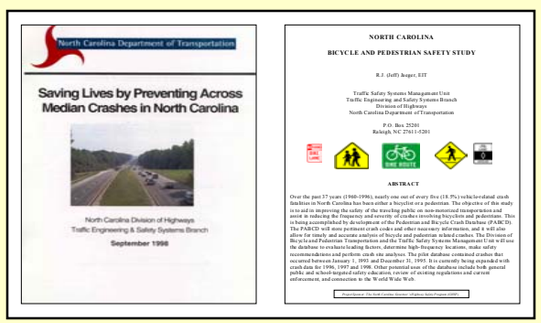
Between 1960 and 1997 bicyclists and pedestrians have been involved in just over 2% of all traffic crashes in North Carolina, yet have accounted for nearly one fifth (18.5%) of all traffic-related fatalities.

A cable guardrail median barrier used to help prevent across-median crashes.

Safety Planning Group

Highway safety analyses are performed as part of the Transportation Improvement Program (TIP) process, project feasibility, categorical exclusions and other points in planning process. These engineering studies are analyzed and compared to current safety standards to ascertain the severity of the crash history so that the proposed project improves the overall safety of the transportation system.

In addition to the internal source of request for safety information, the TSSS performs highway safety analyses in response to requests from engineers, lawyers, decision-makers, and concerned citizens. The crash analysis requested for a particular intersection or roadway segment is produced by accessing the NCDOT's Crash Database. Crash data can be assembled into collision diagrams to give a visual representation of the crash history at a given location. This visual representation enables engineers to readily identify crash patterns and develop countermeasures to improve the location. The Traffic Safety Section responds to thousands of crash analysis requests each year and produces high frequency crash maps, corridor collision diagrams, and other safety tools for North Carolina's safety community.

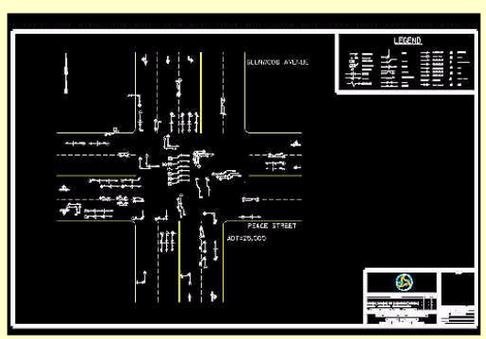


Many safety studies and reports, like the ones pictured above, are developed and produced by the TSSMU.

The Highway Safety Improvement Program listing is a biannual report that may include supplements throughout the year. The supplements will typically focus on a specific type of crash or condition. For example in 2001, a supplement was produced that focused on Pedestrian and Bicycle Crashes. The supplements may be rolled into the annual report to continue the focus on the particular crash pattern.

Highway Safety Improvement Program Group

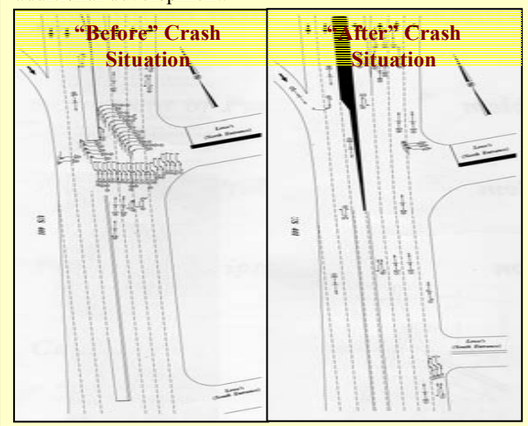
Given the department's commitment to reducing injuries and crashes, and the need to provide integrated transportation, it is increasingly important that critical safety and traffic record information be provided to maximize the safety benefit of limited resources. The Highway Safety Improvement Program (HSIP) focuses on potentially hazardous locations and hazardous features analysis. Every two years TSSS produces a "Potentially Hazardous Location" listing to inventory hazardous locations on North Carolina roads. These locations are submitted to field engineers for on-site investigation, further analysis, and recommendation of engineering countermeasures to address the safety problems. Included in the safety program are locations with crashes involving intersections, interchanges, bridges, pedestrians, wet pavement conditions, and night-time crashes. In addition to the HSIP listing, the Highway Safety Improvement Program Section responds to all requests for safety information from the 14 Divisions and the Traffic Engineering and Safety Systems Branch.



A collision diagram is used to determine possible crash patterns and severity at a given location.

Safety Evaluation Group

The Safety Evaluation Section primary responsibility is to evaluate completed projects and programs to determine if the desired results were achieved. This section reviews completed Spot Safety, Hazard Elimination, and TIP projects as well as smaller projects that may have been completed with maintenance funds. The results of these evaluations help prioritize future projects and provide feed back to engineers on what is working and what needs additional development.



This section also completes special reports used throughout NCDOT and other agencies in North Carolina such as the Statewide Crash Rates, North Carolina Crash Reduction Factors, North Carolina Crash Cost, Municipal and County Rankings. The section also performs crash reconstruction on a request basis from the Attorney General's Office and other parties. A risk management approach is taken when TSSS completes a crash reconstruction attempting to determine if the way the road was designed, built, operated and maintained contributed to the crash.

In a reconstruction requested by a District Attorney, TSSMU reconstructed the collision and developed a short avi file that provided information on the qualitative reconstruction portion of the project that indicated vehicle paths, collisions and final resting positions. This report and the expert testimony provided by TSSMU help convict a repeat DWI offender.